

General

Guideline Title

Hip pain and mobility deficits—hip osteoarthritis: revision 2017.

Bibliographic Source(s)

Cibulka MT, Bloom NJ, Enseki KR, Macdonald CW, Woehrle J, McDonough CM. Hip pain and mobility deficits-hip osteoarthritis: revision 2017. J Orthop Sports Phys Ther. 2017 Jun;47(6):A1-A37. [77 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Cibulka MT, White DM, Woehrle J, Harris-Hayes M, Enseki K, Fagerson TL, Slover J, Godges JJ. Hip pain and mobility deficits--hip osteoarthritis: clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. J Orthop Sports Phys Ther. 2009 Apr;39(4):A1-25. [216 references].

This guideline meets NGC's 2013 (revised) inclusion criteria.

NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report Clinical Practice Guidelines We Can Trust.

Poor Poor Fair Fair Good Poor Very Good Fixed Excellent

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
	Disclosure and Management of Financial Conflict of Interests
	Guideline Development Group Composition
YES	Multidisciplinary Group
YES	Methodologist Involvement
	Patient and Public Perspectives
	Use of a Systematic Review of Evidence
	Search Strategy
	Study Selection
	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
	Grading the Quality or Strength of Evidence

	Benefits and Harms of Recommendations Evidence Summary Supporting Recommendations
	Rating the Strength of Recommendations
11111	Specific and Unambiguous Articulation of Recommendations
ш	External Review
	Updating

Recommendations

Major Recommendations

Levels of evidence (I-V) and grades of recommendation (A-F) are defined at the end of the "Major Recommendations" field.

Note: These recommendations and clinical practice guidelines are based on the scientific literature published prior to April 2016. Please refer to the American Physical Therapy Association's (APTA's) previously published guidelines on "Hip Pain and Mobility Deficits – Hip Osteoarthritis" for literature reviewed prior to 2009.

Diagnosis/Classification

Clinicians should use the following criteria to classify adults over the age of 50 years into the International Statistical Classification of Diseases and Related Health Problems (ICD) category of coxarthrosis and the associated International Classification of Functioning, Disability and Health (ICF) impairment-based category of hip pain (b28016 Pain in joints) and mobility deficits (b7100 Mobility of a single joint): moderate anterior or lateral hip pain during weight-bearing activities, morning stiffness less than 1 hour in duration after wakening, hip internal rotation range of motion less than 24° or internal rotation and hip flexion 15° less than the nonpainful side, and/or increased hip pain associated with passive hip internal rotation. (Grade of Recommendation: A)

Differential Diagnosis

Clinicians should revise the diagnosis and change their plan of care, or refer the patient to the appropriate clinician, when the patient's history, reported activity limitations, or impairments of body function and structure are not consistent with those presented in the diagnosis/classification section of this guideline, or when the patient's symptoms are not diminishing with interventions aimed at normalization of the patient's impairments of body function. (Grade of Recommendation: F)

Examination

Outcome Measures: Activity Limitation/Self-Report Measures

Clinicians should use validated outcome measures that include domains of hip pain, body function impairment, activity limitation, and participation restriction to assess outcomes of treatment of hip osteoarthritis.

Measures to assess hip pain may include the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) pain subscale, Brief Pain Inventory (BPI), pressure pain threshold (PPT), and pain visual analog scale (VAS).

Activity limitation and participation restriction outcome measures may include the WOMAC physical function subscale, the Hip disability and Osteoarthritis Outcome Score (HOOS), Lower Extremity Functional Scale (LEFS), and Harris Hip Score (HHS).

(Grade of Recommendation: A)

Activity Limitation/Physical Performance Measures

To assess activity limitation, participation restrictions, and changes in the patient's level of function over the episode of care, clinicians should utilize reliable and valid physical performance measures, such as the 6-minute walk test, 30-second chair stand, stair measure, timed up-and-go test, self-paced walk, timed single-leg stance, 4-square step test, and step test. (Grade of Recommendation: A)

Clinicians should measure balance performance and activities that predict the risk of falls in adults with hip osteoarthritis, especially those with decreased physical function or a high risk of falls because of past history. Recommended balance tests for patients with osteoarthritis include the Berg Balance Scale, 4-square step test, and timed single-leg stance test. (Grade of Recommendation: A)

Clinicians should use published recommendations from the Academy of Geriatric Physical Therapy of the American Physical Therapy
Association to guide fall risk management in patients with hip osteoarthritis to assess and manage fall risk. (Grade of Recommendation:
F)

Physical Impairment Measures

When examining a patient with hip pain/hip osteoarthritis over an episode of care, clinicians should document the flexion, abduction, and external rotation (FABER or Patrick's) test and passive hip range of motion and hip muscle strength, including internal rotation, external rotation, flexion, extension, abduction, and adduction. (Grade of Recommendation: A)

<u>Interventions</u>

Patient Education

Clinicians should provide patient education combined with exercise and/or manual therapy. Education should include teaching activity modification, exercise, supporting weight reduction when overweight, and methods of unloading the arthritic joints. (Grade of Recommendation: B)

Functional, Gait, and Balance Training

Clinicians should provide impairment-based functional, gait, and balance training, including the proper use of assistive devices (canes, crutches, walkers), to patients with hip osteoarthritis and activity limitations, balance impairment, and/or gait limitations when associated problems are observed and documented during the history or physical assessment of the patient. (Grade of Recommendation: C)

Clinicians should individualize prescription of therapeutic activities based on the patient's values, daily life participation, and functional activity needs. (Grade of Recommendation: C)

Manual Therapy

Clinicians should use manual therapy for patients with mild to moderate hip osteoarthritis and impairment of joint mobility, flexibility, and/or pain. Manual therapy may include thrust, nonthrust, and soft tissue mobilization. Doses and duration may range from 1 to 3 times per week over 6 to 12 weeks in patients with mild to moderate hip osteoarthritis. As hip motion improves, clinicians should add exercises including stretching and strengthening to augment and sustain gains in the patient's range of motion, flexibility, and strength. (Grade of Recommendation: A)

Flexibility, Strengthening, and Endurance Exercises

Clinicians should use individualized flexibility, strengthening, and endurance exercises to address impairments in hip range of motion, specific muscle weaknesses, and limited thigh (hip) muscle flexibility. For group-based exercise programs, effort should be made to tailor exercises to address patients' most relevant physical impairments. Dosage and duration of treatment for effect should range from 1 to 5 times per week over 6 to 12 weeks in patients with mild to moderate hip osteoarthritis. (Grade of Recommendation: A)

Modalities

Clinicians may use ultrasound (1 MHz; 1 W/cm² for 5 minutes each to the anterior, lateral, and posterior hip for a total of 10 treatments over a 2-week period) in addition to exercise and hot packs in the short-term management of pain and activity limitation in individuals with hip osteoarthritis. (Grade of Recommendation: B)

Bracing

Clinicians should not use bracing as a first line of treatment. A brace may be used after exercise or manual therapies are unsuccessful in improving participation in activities that require turning/ pivoting for patients with mild to moderate hip osteoarthritis, especially in those with bilateral hip osteoarthritis. (Grade of Recommendation: F)

Weight Loss

In addition to providing exercise intervention, clinicians should collaborate with physicians, nutritionists, or dietitians to support weight reduction in individuals with hip osteoarthritis who are overweight or obese. (Grade of Recommendation: C)

<u>Definitions</u>

Levels of Evidence*

Level	Intervention/Prevention	Pathoanatomic/Risk/Clinical Course/Prognosis/Differential Diagnosis	Diagnosis/Diagnostic Accuracy	Prevalence of Condition/Disorder	Exam/Outcomes
I	SR of high-quality RCTs High-quality RCT [†]	SR of prospective cohort studies High-quality prospective cohort study [‡]	SR of high- quality diagnostic studies High-quality diagnostic study [§] with validation	SR, high- quality cross- sectional studies High-quality cross-sectional study ^â •'	SR of prospective cohort studies High-quality prospective cohort study
II	SR of high-quality cohort studies High-quality cohort study [‡] Outcomes study or ecological study Lower-quality RCT¶ SR of retrospective cohort study Lower-quality prospective cohort study High-quality retrospective cohort study Consecutive cohort Outcomes study or ecological study		SR of exploratory diagnostic studies or consecutive cohort studies High-quality exploratory diagnostic studies Consecutive retrospective cohort	SR of studies that allows relevant estimate Lower-quality cross-sectional study	SR of lower- quality prospective cohort studies Lower- quality prospective cohort study
III	SRs of case-control studies High-quality case- control study Lower-quality cohort study	Lower-quality retrospective cohort study High-quality cross- sectional case-control study	Lower-quality exploratory diagnostic studies Nonconsecutive retrospective	Local nonrandom study	High-quality cross-sectional study

Level	Intervention/Prevention	Pathoanatomic/Risk/Clinical Course/Prognosis/Differential	Diaghossis Diagnostic	Prevalence of Condition/Disorder	Exam/Outcomes
IV	Case series	Case series Diagnosis	Case-control study		Lower-quality
					cross-sectional study
V	Expert opinion	Expert opinion	Expert opinion	Expert opinion	Expert opinion

Abbreviations: RCT, randomized clinical trial; SR, systematic review.

Grades of Recommendation Based on Strength of Evidence

Grades of Recommendation Based On		Strength of Evidence
А	Strong evidence	A preponderance of level I and/or level II studies support the recommendation. This must include at least 1 level I study
В	Moderate evidence	A single high-quality randomized controlled trial or a preponderance of level II studies support the recommendation
С	Weak evidence	A single level II study or a preponderance of level III and IV studies, including statements of consensus by content experts, support the recommendation
D	Conflicting evidence	Higher-quality studies conducted on this topic disagree with respect to their conclusions. The recommendation is based on these conflicting studies
Е	Theoretical/foundational evidence	A preponderance of evidence from animal or cadaver studies, from conceptual models/principles, or from basic sciences/bench research support this conclusion
F	Expert opinion	Best practice based on the clinical experience of the guidelines development team

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Hip pain and mobility deficits associated with hip osteoarthritis

Guideline Category

Diagnosis

Evaluation

Management

Rehabilitation

Treatment

Clinical Specialty

Family Practice

Geriatrics

Orthopedic Surgery

Physical Medicine and Rehabilitation

Rheumatology

Sports Medicine

Intended Users

Health Care Providers

^{*}Adapted from Phillips B, Ball C, Sackett D, et al. Oxford Centre for Evidence-based Medicine - Levels of Evidence (March 2009). Available at: http://www.cebm.net/index.aspx? o=1025 _______. See also Appendix G in the original guideline document.

 $^{^\}dagger$ High quality includes RCTs with greater than 80% follow-up, blinding, and appropriate randomization procedures.

[#]High-quality cohort study includes greater than 80% follow-up.

[§]High-quality diagnostic study includes consistently applied reference standard and blinding.

 $[\]hat{\mathbf{a}}$ • High-quality prevalence study is a cross-sectional study that uses a local and current random sample or censuses.

[¶]Weaker diagnostic criteria and reference standards, improper randomization, no blinding, and less than 80% follow-up may add bias and threats to validity.

Physical Therapists

Physician Assistants

Physicians

Students

Utilization Management

Guideline Objective(s)

- To describe evidence-based physical therapy practice, including diagnosis, prognosis, intervention, and assessment of outcomes for musculoskeletal disorders commonly managed by orthopaedic physical therapists
- To classify and define common musculoskeletal conditions using the World Health Organization's terminology related to impairments of body function and body structure, activity limitations, and participation restrictions
- To identify interventions supported by current best evidence to address impairments of body function and structure, activity limitations, and participation restrictions associated with common musculoskeletal conditions
- To identify appropriate outcome measures to assess changes resulting from physical therapy interventions in body function and structure as well as in activity and participation of these individuals
- To provide a description to policy makers, using internationally accepted terminology, of the practice of orthopaedic physical therapists
- To provide information for payers and claims reviewers regarding the practice of orthopaedic physical therapy for common musculoskeletal conditions
- To create a reference publication for orthopaedic physical therapy clinicians, academic instructors, clinical instructors, students, interns, residents, and fellows regarding the best current practice of orthopaedic physical therapy

Target Population

Adults with hip osteoarthritis

Interventions and Practices Considered

Diagnosis

Diagnosis and classification according to International Statistical Classification of Diseases and Related Health Problems (ICD) criteria and International Classification of Functioning, Disability, and Health (ICF) criteria

Differential diagnosis

Examination using validated outcome measures: activity limitation/self-report measures

Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) pain subscale

Brief Pain Inventory (BPI)

Pressure pain threshold (PPT)

Pain visual analog scale (VAS)

WOMAC physical function subscale

Hip disability and Osteoarthritis Outcome Score (HOOS)

Lower Extremity Functional Scale (FEFS)

Harris Hip Score (HHS)

 $\label{problem} \textbf{Examination using activity limitation and physical performance measures}$

6-minute walk

30-second chair stand

Stair measure

Timed up-and-go tests

Self-paced walk

Timed single-leg stance

4-square step test

Step test

Examination using physical impairment measures (i.e., flexion, abduction, and external rotation [FABER or Patrick's] test and passive hip range of motion and hip muscle strength, including internal rotation, external rotation, flexion, extension, abduction, and adduction)

Fall risk management

Management/Treatment

Patient education

Functional, gait, and balance training

Manual therapy (including thrust, nonthrust, and soft tissue mobilization)

Flexibility, strengthening, and endurance exercises

Ultrasound

Bracing

Weight reduction support

Major Outcomes Considered

- Hip pain
- · Body function impairment
- · Activity limitation
- Participation restriction

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The authors of this guideline revision worked with research librarians with expertise in systematic review to perform a systematic search for hip osteoarthritis (OA) articles published since 2008 related to classification, examination, and intervention strategies, consistent with previous guideline development methods related to International Classification of Functioning, Disability, and Health (ICF) classification. Briefly, the following databases were searched from 2008 to 2016: MEDLINE (PubMed; 2008-2016), CINAHL (EBSCO; 2008-date), PEDro (EBSCO; 2008-date), and the Cochrane Library (Wiley; 2008-date). See Appendix A in the original guideline document for full search strategies and Appendix B for search dates and results.

Articles contributing to recommendations were reviewed based on specified inclusion and exclusion criteria, with the goal of identifying evidence relevant to physical therapist clinical decision making for adults with hip OA. The title and abstract of each article were reviewed independently by 2 members of the clinical practice guideline (CPG) development team for inclusion. See Appendix C in the original guideline document for inclusion and exclusion criteria. Full-text review was then similarly conducted to obtain the final set of articles for contribution to recommendations. The team leader provided the final decision for discrepancies that were not resolved by the review team. For selected relevant topics that were not appropriate for the development of recommendations, such as incidence and imaging, articles were gathered, reviewed, and synthesized but were not subject to a formal systematic review process and were not included in the flow chart. Evidence tables for this CPG are available on the Clinical Practice Guidelines page of the Orthopaedic Section of the American Physical Therapy Association (APTA) Web site (www.orthopt.org

Number of Source Documents

- Assessment n = 22
- Intervention n = 27

Refer to Appendix D in the original guideline document for flow charts of articles and Appendix E for articles included in recommendations by topic.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence*

Level	evel Intervention/Prevention Pathoanatomic/Risk/Clinical Course/Prognosis/Differential Diagnosis		Diagnosis/Diagnostic Accuracy	Prevalence of Condition/Disorder	Exam/Outcomes
I	SR of high-quality RCTs High-quality RCT [†]	SR of prospective cohort studies High-quality prospective cohort study [‡]	SR of high- quality diagnostic studies High-quality diagnostic study [§] with validation	SR, high- quality cross- sectional studies High-quality cross-sectional study ^â	SR of prospective cohort studies High-quality prospective cohort study
II	SR of high-quality cohort studies High-quality cohort study [‡] Outcomes study or ecological study Lower-quality RCT [¶]	SR of retrospective cohort study Lower-quality prospective cohort study High-quality retrospective cohort study Consecutive cohort Outcomes study or ecological study	SR of exploratory diagnostic studies or consecutive cohort studies High-quality exploratory diagnostic studies Consecutive retrospective cohort	SR of studies that allows relevant estimate Lower-quality cross-sectional study	SR of lower- quality prospective cohort studies Lower- quality prospective cohort study

Lěwel	Intervention/seremention studies High-quality case- control study Lower-quality cohort study	Pathowna townicy Risky (Chricial Course) (Projembsis / Differential High-q Didignoses s- sectional case-control study	Diaghosis பிழ்க்கும் postic e அம்மா வர diagnostic studies Nonconsecutive retrospective cohort	Lo de reveniem cle nof Cloud dition / Disorder	Bighm/@utromes cross-sectional study
IV	Case series	Case series	Case-control study		Lower-quality cross-sectional study
V	Expert opinion	Expert opinion	Expert opinion	Expert opinion	Expert opinion

Abbreviations: RCT, randomized clinical trial; SR, systematic review.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Levels of Evidence

Individual clinical research articles were graded according to criteria adapted from the Centre for Evidence-based Medicine (Oxford, United Kingdom) for diagnostic, prospective, and therapeutic studies. In teams of 2, each reviewer independently assigned a level of evidence and evaluated the quality of each article using a critical appraisal tool. See the "Rating Scheme for the Strength of Evidence" field for a levels of evidence table and Appendix G in the original guideline document for details on procedures used for assigning levels of evidence. The evidence update was organized from highest level of evidence to lowest level.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Content experts were appointed by the Orthopaedic Section of the American Physical Therapy Association (APTA) to conduct a review of the literature and to develop an updated hip osteoarthritis (OA) clinical practice guideline (CPG) as indicated by the current state of the evidence in the field. The aims of the revision were to provide a concise summary of the evidence since publication in 2009 of the original quidelines, and to develop new recommendations or revise previously published recommendations to support evidence-based practice.

Grades of Evidence

The strength of the evidence supporting the recommendations was graded according to the previously established methods for the 2009 guideline and those provided in the original guideline document. Each team developed recommendations based on the strength of evidence, including how directly the studies addressed the question of hip pain and hip osteoarthritis (OA). In developing their recommendations, the authors considered the strengths and limitations of the body of evidence and the health benefits, side effects, and risks of tests and interventions.

Rating Scheme for the Strength of the Recommendations

Grades of Recommendation Based on Strength of Evidence

Grades of Recommendation Based On		Strength of Evidence
А	Strong evidence	A preponderance of level I and/or level II studies support the recommendation. This must include at least 1 level I study
В	Moderate evidence	A single high-quality randomized controlled trial or a preponderance of level II studies support the recommendation
С	Weak evidence	A single level II study or a preponderance of level III and IV studies, including statements of consensus by content experts, support the recommendation
D	Conflicting evidence	Higher-quality studies conducted on this topic disagree with respect to their conclusions. The recommendation is based on these conflicting studies
Е	Theoretical/foundational	A preponderance of evidence from animal or cadaver studies, from conceptual models/principles, or from

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[†]High quality includes RCTs with greater than 80% follow-up, blinding, and appropriate randomization procedures.

[#]High-quality cohort study includes greater than 80% follow-up.

[§]High-quality diagnostic study includes consistently applied reference standard and blinding.

â • 'High-quality prevalence study is a cross-sectional study that uses a local and current random sample or censuses.

[¶]Weaker diagnostic criteria and reference standards, improper randomization, no blinding, and less than 80% follow-up may add bias and threats to validity.

evide Grades of	basic sciences/bench research support this conclusion Evidence
	Best practice based on the clinical experience of the guidelines development team
On	

Cost Analysis

One research group conducted an economic evaluation of the randomized controlled trial (RCT) conducted by another group of patients who met the American College of Rheumatology (ACR) criteria for hip osteoarthritis (OA) using 1-year outcomes. Manual therapy, exercise therapy, and combined manual and exercise therapy provided gains in quality-adjusted life-years compared to usual medical care. From the societal perspective, manual therapy was cost saving compared to usual care, and exercise therapy was cost-effective. Using either exercise or manual therapy was more cost-effective than the combination of the 2. The 1-year time frame is an important limitation of this study because gains sustained over time would increase cost-effectiveness.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Guideline Review Process and Validation

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Improvement in scores on validated outcome measurement scales

Refer to the "Evidence Update" section in the original guideline document for specific benefits of the interventions.

Potential Harms

Refer to the "Evidence Update" sections of the original guideline document for specific harms of interventions.

Qualifying Statements

Qualifying Statements

Statement of Intent

These guidelines are not intended to be construed or to serve as a standard of medical care. Standards of care are determined on the basis of all clinical data available for an individual patient and are subject to change as scientific knowledge and technology advance and patterns of care evolve. These parameters of practice should be considered guidelines only. Adherence to them will not ensure a successful outcome in every patient, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgment regarding a particular clinical procedure or treatment plan must be made based on clinician experience and expertise in light of the clinical presentation of the patient, the available evidence, available diagnostic and treatment options, and the patient's values, expectations, and preferences. However, it is suggested that significant

departures from accepted guidelines should be documented in the patient's medical records at the time the relevant clinical decision is made.

Implementation of the Guideline

Description of Implementation Strategy

Dissemination and Implementation Tools

Implementation Tools

Resources

For information about availability, see the Availability of Companion Documents and Patient Resources fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Cibulka MT, Bloom NJ, Enseki KR, Macdonald CW, Woehrle J, McDonough CM. Hip pain and mobility deficits-hip osteoarthritis: revision 2017. J Orthop Sports Phys Ther. 2017 Jun;47(6):A1-A37. [77 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2017 Jun

Guideline Developer(s)

American Physical Therapy Association, Inc., The Orthopaedic Section - Medical Specialty Society

Source(s) of Funding

The Orthopaedic Section of the American Physical Therapy Association (APTA), Inc.

Guideline Committee

Clinical Practice Guideline (CPG) Development Team

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Financial Disclosures/Conflicts of Interest

The authors declared relationships and developed a conflict management plan, which included submitting a conflict-of-interest form to the Orthopaedic Section of the American Physical Therapy Association (APTA). Articles that were authored by a reviewer were assigned to an alternate reviewer. Funding was provided to the CPG development team for travel and expenses for clinical practice guideline (CPG) development training. The CPG development team maintained editorial independence.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Cibulka MT, White DM, Woehrle J, Harris-Hayes M, Enseki K, Fagerson TL, Slover J, Godges JJ. Hip pain and mobility deficits--hip osteoarthritis: clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. J Orthop Sports Phys Ther. 2009 Apr;39(4):A1-25. [216 references].

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the American	Physical Therapy	Association, Inc.,	Orthopedic Section Web site	
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Availability of Companion Documents

The following are available:

Hip pain, mobility deficits, osteoarthritis: clinical practice guidelines revision 2017. Decision tree. J Orthop Sports Phys Ther. 2017 Jun; 47(6). Available from the American Physical Therapy Association (APTA), Inc., Orthopedic Section Web site

APTA clinical practice guideline process manual. Alexandria (VA): American Physical Therapy Association (APTA); 2018. 63 p. Available from the APTA Web site ______.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on March 23, 2010. The information was verified by the guideline developer on May 9, 2010. This NGC summary was updated by ECRI Institute on March 19, 2018. The information was verified by the guideline developer on April 6, 2018.

This NEATS assessment was completed by ECRI Institute on March 14, 2018. The information was verified by the guideline developer on

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